



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/254,769 | 03/11/1999 | BRIAN SAMUEL BEAMAN | YO996-184N | 7568 |

7590 04/08/2004

THOMAS A. BECK, ESQ.
26 Rockledge Lane
New Milford, CT 06776

| |
|----------|
| EXAMINER |
|----------|

NGUYEN, VINH P

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2829

DATE MAILED: 04/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

nr

| | | | |
|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 09/254,769 | Applicant(s) BEAMAN ET AL. | |
| | Examiner VINH P NGUYEN | Art Unit 2829 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1, 4-7, 9-31, 33, 46-48 and 52-58 is/are allowed.
- 6) ☒ Claim(s) 8, 32, 34-45 and 49-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>1100</u> . | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2829

1. Claims 8,32,36-45,49 and 60 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 8 and 32, it appears that the dependency of this claim is improper because this claim depends on a canceled claim 3. This claim should be dependent on claim 1.

In claim 36, "said probes" has no antecedent basis. Furthermore, it is unclear how the probes are interrelated and associated with the wires and the ball shaped contacts.

In claim 49, "said dielectric" has no antecedent basis. It appears that this claim should be dependent from claim 47 instead of claim 42.

In claim 60, it is unclear what "a plurality of probe arrays" represent. Furthermore, it is unclear how the plurality of probe arrays are interrelated and associated with the bond wire elongated electrical conductors. Are they different from the bond wire elongated electrical conductors.

The dependent claims not specifically address share the same indefiniteness as they depend from rejected base claims.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 34-35 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bross et al (Pat # 5,225,777) in view of Beaman et al (pat # 5,371,654).

As to claim 34, Bross et al disclose a high density probe for making contact with

an integrated circuit having a substrate (23), a plurality of elongated electrical conductors (36) extending away from the surface of the substrate (23), means for permitting (32) for second ends to move about reference positions. It appears that the permission means (32) is a sheet of material with a plurality of through holes therein through which the second ends project. It is noted that the wire elongated electrical connector of Bross et al does not have a ball shaped protuberances. However, Beaman et al teach that the elongated electrical conductor (84) with a ball shaped protruberances (90,92) is well known in the art. Therefore, it would have been obvious for one of ordinary skill in the art to make the elongated connectors of Bross et al with ball shaped protruberance at first and second ends so that these ends would not severely damage the pads of the device under test during the making contact.

As to claim 35, it appears that the apparatus of Bross et al is a probe for simultaneously contacting a plurality of integrated circuits.

As to claim 51, Bross et al do not mention about the material for the substrate such as "epoxy glass laminate substrate with copper wiring" or "silicon substrate with thin film wiring. However, the material for such substrate would have been well known in the art.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 50 is rejected under 35 U.S.C. 102(b) as being participated by Beaman et al (Pat # 5,371,654).

As to claim 50, Beaman et al disclose in figure 6 an apparatus having a first fan out substrate (94) with a plurality of contact locations (104), a plurality of ball bonds (90) attached to the contact locations (104), a plurality of wires (84) extending outward from the ball bonds (104) and a plurality of ball bond shaped contacts (92) on the end of the wires (84).

Claim 50 is rejected under 35 U.S.C. 102(b) as being participated by Luttmer (Pat # 5,371,654).

As to claim 50, Luttmer discloses in figure 9 an apparatus having a first fan out substrate (74) with a plurality of contact locations (76), a plurality of ball bonds (70) attached to the contact locations (76), a plurality of wires (72) extending outward from the ball bonds (104) and a plurality of ball bond shaped contacts (70) on the end of the wires (72).

6. Claims 1,4-7,9-31,33,46-48,52-58 are allowable since the prior art does not disclose a sheet of electrically conductive material having a plurality of through holes and a sheet of dielectric material for preventing the elongated electrical conductors from electrically contacting the sheet of electrically conductive material.

7. Applicants have not address the rejections of claims 34-35 and 50-51. It appears that Applicants agreed with these rejections and the prior art of record still meet the limitations of these instant claims 34-35 and 50-51.

Furthermore, it appears that some issues related to the 112, 2nd paragraph have not been resolved. Examiner repeated the rejections of claims 36 and 60 under 35, 112 2nd paragraph with further explanations showing that there is no interrelationship of these probe array and the wires and the ball shaped contacts. It appears that the array of probes or probe arrays are different from the wires and the ball shaped contacts and the bond wire elongated electrical conductors respectively. Applicants need to clarify these issues.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VINH P NGUYEN whose telephone number is (521)-272-1964.

Art Unit: 2829

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


VINH P. NGUYEN
PRIMARY EXAMINER
ART UNIT 2829
04/02/04